AMENDMENTS TO THE CLAIMS

Please cancel claims 16-17, 38-40, 44, 45, 61-65, 67, 68, 70, 77, 85, 86, and 92; amend claims 1, 3, 14, 71; and add claims 94-98. The following listing of claims will replace all prior versions, and listings, of the claims in the application.

1. (Currently amended) A method of determining a predisposition or resistance to human immunodeficiency virus (HIV) ~~HIV virus~~ infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at at least one of the microsatellite loci D22S929, D22S277, D22S264, D22S423 ~~[[&]]~~, D22S418, D22S272 or D22S1169, wherein the presence of particular alleles at microsatellite loci D22S929, D22S277, D22S264, D22S423 ~~[[&]]~~ D22S418, D22S272 or D22S1169 is indicative of a predisposition or resistance to infection.

2. (Cancelled)

3. (Currently amended) The method according to claim 1, in which the sample is assayed to determine the presence of homologues, splice variants, or derivatives of the microsatellite loci D22S929, D22S277, D22S264, D22S423 ~~[[&]]~~ D22S418, D22S272 or D22S1169 or a nucleic acid complementary thereto.

4. (Withdrawn) The method according to claim 1, in which the infection is viral infection.

5-7. (Cancelled)

8. (Previously Presented) The method according to claim 1, in which the sample is obtained non-invasively.

9. (Previously Presented) The method according to claim 1, in which the sample is blood, urine, semen, mouth swabs, skin cells, nail clippings, hair, high vaginal swabs or a cervical smear.

10. (Previously Presented) The method according to claim 1, in which the sample is amplified by the use of a nucleic acid amplification technique.

11. (Previously Presented) The method according to claim 10, in which the nucleic acid amplification technique is PCR or rolling circle replication.

12. (Previously Presented) The method according to claim 1, in which the sample is assayed for the presence or absence of particular genotypes at the microsatellite locus or loci using DNA fragment length analysis, DNA hybridisation techniques, DNA sequence identification, single strand length polymorphism (SSLP) analysis, or reference strand conformation (RSC) analysis.

13. (Previously Presented) The method according to claim 12, in which the assay uses single strand length polymorphism (SSLP) analysis and a flanking primer set for PCR amplification of the microsatellite marker is selected from
D22S277 left, TTCTTGTGTGGTAGTCTGGG; (SEQ ID No: 1)
D22S277 right, TACCNACTCCCCAAACTATG; (SEQ ID No: 2)
D22S272 left, GAGTTTTGTTTGCCTGGCAC; (SEQ ID No:3)
D22S272 right, AATGCACGACCCACCTAAAG; (SEQ ID No:4)
D22S276 left, CATTCTGCCAAGCAATTTAT; (SEQ ID No:5)
D22S276 right, GCTGCTCTTTAAGTTTCTTGACC; (SEQ ID No:6)
D22S929 left, GGAGCTGCATGTACTAGCTGG; (SEQ ID No:7)
D22S929 right, GCATTTATGGAGTATCCACAG; (SEQ ID No:8)
D22S1169 left, GCACACACATGCACATAATC; (SEQ ID No: 9) and
D22S1169 right, AACAACTTCCAGCAGACG. (SEQ ID No:10) and
complementary nucleic acids or fragments, polymorphisms, splice variants or homologues thereof.

14. (Currently Amended) A kit for the diagnosis of a predisposition to a HIV ~~virus~~ infection, the kit comprising reagents for determination of genotype at at least one of the microsatellite loci D22S929, D22S277, D22S264, D22S423 ~~[[&]]~~ D22S418, D22S272 or D22S1169 or a nucleic acid complementary thereto, fragments, polymorphisms, splice variants or homologues thereof.

15-21. (Cancelled)

22. (Withdrawn) An isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof comprising an amino acid sequence encoded by a gene located in a chromosomal segment adjacent to microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418, D22S272 or D22S1169, complementary nucleic acids or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said gene.

23-25. (Cancelled)

26. (Withdrawn) A pharmaceutical composition comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 22 and a pharmaceutically acceptable carrier.

27. (Cancelled)

28. (Cancelled)

29. (Withdrawn) A contraceptive comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 22.

30. (Cancelled)

31. (Withdrawn) A microbicide comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 22.

32 – 34. (Cancelled)

35. (Withdrawn) A method for the treatment or prophylaxis of infection comprising administering to a subject in need thereof a therapeutically effective amount of the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 22.

36-46. (Cancelled)

47. (Withdrawn) A chip or assay plate comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments according to claim 22.

48. (Withdrawn) A screening assay for identifying a compound able to bind to or otherwise recognize, modify or mimic a peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of a protein encoded by a nucleic acid sequence located in a chromosomal segment adjacent to microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418, D22S272 or D22S1169, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said gene, comprising contacting a test compound with the chip or assay plate of claim 47 and determining whether the compound binds to or otherwise recognizes, modifies or mimics the peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-

translational derivatives, functional derivatives, homologues or fragments of the protein encoded by said nucleic acid sequence.

49. (Cancelled)

50. (Withdrawn) A method for producing an immunoglobulin A which provides resistance to infection or possesses antiviral activity comprising contacting a cell with ~~a~~ microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418, D22S272 or D22S1169, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues thereof to thereby produce an immunoglobulin A which provides resistance to infection or possesses antiviral activity.

51. (Withdrawn) The method according to claim 50, further comprising contacting said cell with a peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of a protein encoded by a nucleic acid sequence located in the chromosomal segment adjacent to the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418, D22S272 or D22S1169, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said nucleic acid sequence.

52. (Withdrawn) An Immunoglobulin A providing resistance to infection or possessing antiviral activity, produced according to claim 50.

53. (Withdrawn) A pharmaceutical composition comprising an immunoglobulin A according to claim 52 and a pharmaceutically acceptable carrier.

54. (Withdrawn) A method for the treatment of infection comprising administering to a subject in need thereof a therapeutically effective amount an immunoglobulin A according to claim 52.

55. (Cancelled)

56. (Cancelled)

57. (Withdrawn) The method according to claim 54 further comprising producing a mucosal response in said subject undergoing treatment to thereby produce protective immunity in said subject.

58. (Withdrawn) A mucosal vaccine comprising an immunoglobulin A according to claim 52.

59. (Withdrawn) A method for producing antigen or pathogen specific immunity in a subject comprising administering to a subject an effective amount of a vaccine according to claim 58.

60-70. (Cancelled)

71. (Currently Amended) The method according to claim 1, wherein the method further comprises sequencing a DNA bearing sample from a subject to identify a nucleic acid sequence present between microsatellite loci D22S929 and D22S1169 and comparing the sequence against sequences obtained from the same location in known exposed seronegative subjects who are ~~indicative of a resistance~~ resistant to infection, thereby determining the predisposition or resistance to HIV infection in the subject.

72. (Previously Presented) The method according to claim 71, in which the sample is blood, urine, semen, mouth swabs, skin cells, nail clippings, hair, high vaginal swabs or a cervical smear.

73. (Previously Presented) The method according to claim 71, in which the sample is amplified by PCR or rolling circle replication.

74. (Previously Presented) The method according to claim 71, in which the sample is assayed for the presence or absence of particular genotypes at the microsatellite locus or loci using DNA fragment length analysis, DNA hybridisation techniques, DNA sequence identification or single strand length polymorphism (SSLP) analysis.

75. (Previously Presented) The method according to claim 74, in which the assay uses single strand length polymorphism (SSLP) analysis and a flanking primer set for PCR amplification of the microsatellite marker is selected from
D22S277 left, TTCTTGTGTGGTAGTCTGGG; (SEQ ID No: 1)
D22S277 right, TACCNACTCCCCAAACTATG; (SEQ ID No: 2)
D22S272 left, GAGTTTTGTTTGCCTGGCAC; (SEQ ID No:3)
D22S272 right, AATGCACGACCCACCTAAAG; (SEQ ID No:4)
D22S276 left, CATTCTGCCAAGCAATTTAT; (SEQ ID No:5)
D22S276 right, GCTGCTCTTTAAGTTTCTTGACC; (SEQ ID No:6)
D22S929 left, GGAGCTGCATGTACTAGCTGG; (SEQ ID No:7)
D22S929 right, GCATTTATGGAGTATCCACAG; (SEQ ID No:8)
D22S1169 left, GCACACACATGCACATAATC; (SEQ ID No: 9) and
D22S1169 right, AACAACTTCCAGCAGACG. (SEQ ID No:10) and
complementary nucleic acids or fragments, polymorphisms, splice variants or homologues thereof.

76. (Withdrawn) The kit of claim 14, comprising: reagents for determination of a genotype between microsatellite loci D22S929 and D22S1169 or a nucleic acid complementary thereto, fragments, polymorphisms, splice variants or homologues thereof; and reagents for determining the presence or absence of the nucleic acid sequences known to confer HIV resistance in exposed seronegative individuals.

77. (Cancelled)

78. (Withdrawn) A method of treating a subject having a predisposition to infection or an infection comprising administering to said subject a gene therapy comprising a vector according to claim 77.

79. (Withdrawn) The isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 22, comprising an amino acid sequence encoded by a nucleic acid located in a chromosomal segment between microsatellite loci D22S929 and D22S1169 of an HIV-exposed seronegative individual or complementary nucleic acids or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said nucleic acid.

80. (Withdrawn) A method for the treatment or prophylaxis of HIV infection comprising administering to a subject in need thereof a therapeutically effective amount of the peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 79.

81. (Withdrawn) A vaccine comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 79.

82. (Withdrawn) A pharmaceutical composition comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 79 and a pharmaceutically acceptable carrier.

83. (Withdrawn) The pharmaceutical composition according to claim 82 for mucosal administration in prophylaxis, therapy or mucosal vaccination against HIV.

84. (Withdrawn) A microbicide comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivative, functional derivative, homologue or fragment thereof according to claim 79 for use in prophylaxis, therapy or mucosal vaccination against HIV.

85. (Cancelled)

86. (Cancelled)

87. (Withdrawn) A screening assay for identifying a compound that is able to bind to or otherwise recognize DNA comprising a nucleic acid sequence between microsatellite loci D22S929 and D22S1169 of an HIV-exposed seronegative individual, or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said DNA, said assay comprising contacting a test compound with the chip or assay plate according to claim 86 and determining whether the compound binds to or otherwise recognizes said DNA.

88. (Withdrawn) A chip or assay plate comprising the isolated peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments according to claim 79.

89. (Withdrawn) A screening assay for identifying a compound able to bind to or otherwise recognize, modify or mimic a peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of a protein encoded by a nucleic acid sequence between microsatellite loci D22S929 and D22S1169 of an HIV-exposed seronegative individual said assay comprising contacting a test compound with the chip or assay plate of claim 86 and determining whether the compound binds to or otherwise recognizes, modifies or mimics the peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of the protein encoded by said nucleic acid sequence.

90. (Withdrawn) The screening assay of claim 87, which is a high throughput screening assay.

91. (Withdrawn) The screening assay of claim 89, which is a high throughput screening assay.

92. (Cancelled)

93. (Previously presented) A method of determining a predisposition or resistance to HIV virus infection, the method comprising sequencing a DNA bearing sample from a subject to identify the nucleic acid sequence present between microsatellite loci D22S929 and D22S1169 and comparing the sequence obtained against the sequences obtained from the same location in known exposed seronegative patients who are resistant to infection.

94. (New) A method of determining a predisposition or resistance to human immunodeficiency virus (HIV) infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at the microsatellite loci D22S929, D22S277, D22S264, D22S423, D22S418, D22S272, and D22S1169, wherein the presence of particular alleles at microsatellite loci D22S929, D22S277, D22S264, D22S423, D22S418, D22S272, and D22S1169 is indicative of a predisposition or resistance to infection.

95. (New) A method of determining a predisposition to human immunodeficiency virus (HIV) infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at at least one of the microsatellite loci D22S277, D22S423, or D22S272, wherein the presence of an allele 134 bp in length at microsatellite loci D22S277, the absence of an allele 221 bp in length at microsatellite loci D22S423, and the absence of an allele 156

or 158 bp in length at microsatellite loci D22S272 is indicative of a predisposition to infection.

96. (New) A method of determining a predisposition to human immunodeficiency virus (HIV) infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at the microsatellite loci D22S277, D22S423, and D22S272, wherein the presence of an allele 134 bp in length at microsatellite loci D22S277, the absence of an allele 221 bp in length at microsatellite loci D22S423, and the absence of an allele 156 or 158 bp in length at microsatellite loci D22S272 is indicative of a predisposition to infection.

97. (New) A method of determining a resistance to human immunodeficiency virus (HIV) infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at at least one of the microsatellite loci D22S277, D22S423, or D22S272, wherein the absence of an allele 134 bp in length at microsatellite loci D22S277, the presence of an allele 221 bp in length at microsatellite loci D22S423, and the presence of an allele 156 or 158 bp in length at microsatellite loci D22S272 is indicative of a resistance to infection.

98. (New) A method of determining a resistance to human immunodeficiency virus (HIV) infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at the microsatellite loci D22S277, D22S423, and D22S272, wherein the absence of an allele 134 bp in length at microsatellite loci D22S277, the presence of an allele 221 bp in length at microsatellite loci D22S423, and the presence of an allele 156 or 158 bp in length at microsatellite loci D22S272 is indicative of a resistance to infection.